

TRANSLATION

PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference 2003P17643WO	FOR FURTHER ACTION	See Form PCT/IPEA/416
International application No. PCT/EP2004/053112	International filing date (<i>day/month/year</i>) 26.11.2004	Priority date (<i>day/month/year</i>) 12.12.2003
International Patent Classification (IPC) or national classification and IPC G05B23/02		
Applicant SIEMENS AKTIENGESELLSCHAFT		

1.	This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.
2.	This REPORT consists of a total of <u>6</u> sheets, including this cover sheet.
3.	This report is also accompanied by ANNEXES, comprising: a. <input type="checkbox"/> (sent to the applicant and to the International Bureau) a total of _____ sheets, as follows: <input type="checkbox"/> sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions). <input type="checkbox"/> sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box. b. <input type="checkbox"/> (sent to the International Bureau only) a total of (indicate type and number of electronic carrier(s)) _____, containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).
4.	This report contains indications relating to the following items: <input checked="" type="checkbox"/> Box No. I Basis of the report <input type="checkbox"/> Box No. II Priority <input type="checkbox"/> Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability <input type="checkbox"/> Box No. IV Lack of unity of invention <input checked="" type="checkbox"/> Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement <input type="checkbox"/> Box No. VI Certain documents cited <input type="checkbox"/> Box No. VII Certain defects in the international application <input type="checkbox"/> Box No. VIII Certain observations on the international application

Date of submission of the demand	Date of completion of this report
Name and mailing address of the IPEA/EP	Authorized officer
Facsimile No.	Telephone No.

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Box No. I Basis of the report

1. With regard to the language, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.
- ☐ This report is based on translations from the original language into the following language _____, which is the language of a translation furnished for the purposes of:
- ☐ international search (Rule 12.3 and 23.1(b))
- ☐ publication of the international application (Rule 12.4)
- ☐ international preliminary examination (Rule 55.2 and/or 55.3)
2. With regard to the elements of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report)*:
- ☐ the international application as originally filed/furnished
- ☒ the description:
- pages 1-10 _____ as originally filed/furnished
- pages* _____ received by this Authority on _____
- pages* _____ received by this Authority on _____
- ☒ the claims:
- nos. 1-7 _____ as originally filed/furnished
- nos.* _____ as amended (together with any statement) under Article 19
- nos.* _____ received by this Authority on _____
- nos.* _____ received by this Authority on _____
- ☒ the drawings:
- sheets 1/1 _____ as originally filed/furnished
- sheets* _____ received by this Authority on _____
- sheets* _____ received by this Authority on _____
- ☐ a sequence listing and/or any related table(s) – see Supplemental Box Relating to Sequence Listing.
3. ☐ The amendments have resulted in the cancellation of:
- ☐ the description, pages _____
- ☐ the claims, nos. _____
- ☐ the drawings, sheets/figs _____
- ☐ the sequence listing (*specify*): _____
- ☐ any table(s) related to sequence listing (*specify*): _____
4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).
- ☐ the description, pages _____
- ☐ the claims, nos. _____
- ☐ the drawings, sheets/figs _____
- ☐ the sequence listing (*specify*): _____
- ☐ any table(s) related to sequence listing (*specify*): _____

* If item 4 applies, some or all of those sheets may be marked "superseded."

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Box No. V	Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement		
1. Statement			
Novelty (N)	Claims	<u>1-7</u>	YES
	Claims		NO
Inventive step (IS)	Claims		YES
	Claims	<u>1-7</u>	NO
Industrial applicability (IA)	Claims	<u>1-7</u>	YES
	Claims		NO
2. Citations and explanations (Rule 70.7)			
<p>1. This report makes reference to the following documents (D1, D2), which are cited in the search report; the same numbering will be used throughout the proceedings:</p> <p>D1: EP-0843244 (General Electric Company) 20 May 1998 D2: US-A-6622101 (R. Oechsner et al) 16 September 2003</p> <p>2 INDEPENDENT CLAIM 1</p> <p>The present application fails to meet the requirements of PCT Article 33(1) because the subject matter of claim 1 does not involve an inventive step within the meaning of PCT Article 33(3).</p> <p>With regard to independent claim 1, D1 describes a method of monitoring a technical device, said method having the following steps:</p> <p>a) during operation of the technical device, a number of operating signals are detected,</p> <p>b) an operating signal mean value is determined from at least some of the operating signals of the number of operating signals (column 4, lines 53-56)</p> <p>c) an operating signal mean value is calculated and a reference range with upper and lower threshold values is</p>			

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	<p>defined for at least one operating signal (column 4, lines 55 to column 5, line 28).</p> <p>d) The operating signal is compared with the threshold values.</p> <p>The subject matter of claim 1 differs from the content of D1 in that, in claim 1, the difference between the operating signal and the operating signal mean value is first calculated and then compared with a reference value range, whereas in D1, the operating signal is compared with the reference signal, which is the sum of the operating signal mean value and a threshold value (or the difference between the operating signal mean value and a threshold value).</p> <p>The present application involves the same process of comparison, the only difference being that the order of the method steps has been changed. The present method therefore does not involve an inventive step.</p> <p>The aforementioned features are merely obvious possibilities from which a person skilled in the art would select according to the circumstances in order to solve the stated problem, without thereby being inventive.</p> <p>A person skilled in the art has the task of selecting threshold values. A possible difference between the results of D1 and the teaching of claim 1 in the application of the method depends on which threshold values are selected. A person skilled in the art can, for example, instead of $R_{avg} = \text{abs}(X_1 - X_2) + \text{abs}(x_2 - x_3) + \dots \text{abs}(x_{14} - X_{15})/14$, select another reference range. In any case, the inequalities:</p>

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	<p>signal - mean value \times reference value and signal \times mean value + reference value are entirely equivalent.</p> <p>3. DEPENDENT CLAIMS 2 TO 7</p> <p>The present application fails to meet the requirements of PCT Article 33(1) because the subject matter of claims 2 to 7 does not involve an inventive step within the meaning of PCT Article 33(3).</p> <p>a) With regard to dependent claim 2: D1 describes a monitoring method in which the reference range is defined by a smallest and a largest value of the standard operating signal (column 5, lines 10-19).</p> <p>b) With regard to dependent claim 3: D1 describes a monitoring method in which the smallest and/or largest value of the standard operating signal is calculated from real measured values of the respective operating signal (column 5, lines 5-19)</p> <p>c) With regard to dependent claim 4: D1 describes a monitoring method in which the smallest and/or the largest value of the standard operating signal is calculated by means of a statistical distribution function (column 5, lines 5-19).</p> <p>d) With regard to dependent claim 5: D1 describes a monitoring method in which the reference value range is determined repeatedly (column 4, lines 55 to column 5, line 23).</p>

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	<p>e) The subject matter of claim 6 (comparison of the operating signal with a predetermined threshold value) is generally known.</p> <p>f) The subject matter of claim 7 differs from the known monitoring method in that, for each type of operating signal, a corresponding operating signal mean value is calculated.</p> <p>These features have, however, already been used for the same purpose in a similar monitoring method (see D2, in particular, column 5, lines 10-25). If a person skilled in the art wished to achieve the same aim in a monitoring method as per D1, this person could easily apply these features to like effect also to the subject matter of D1. In this way a person skilled in the art would arrive at a device as per claim 7, without thereby being inventive. The subject matter of claim 7 therefore does not involve an inventive step (EPC Articles 52(1) and 56).</p>